

Claims

- [1] A personal descent apparatus for evacuating occupants from a high elevation of tall building under emergency comprising:
a pair of supporting plates, the supporting plates being connected to each other front and rear with a predetermined gap;
braking rods rotatably fixed to the pair of supporting plates in the predetermined gap between the pair of supporting plates, the braking rods forming a passage which is formed by two guide grooves each of which is tapered and formed at arc ends facing to each other, so that a rope is inserted to the passage; and
weight receiving means connected to both ends of the braking rods for receiving a load, wherein the braking rods are rotated by the load.
- [2] The personal descent apparatus according to claim 1, wherein said passage formed between the guide grooves of the braking rods is shaped as its cross-sectional area is gradually increased from upper to lower, and said weight receiving means is connected to internal side of rotation center of the braking rods.
- [3] The personal descent apparatus according to claim 1, wherein the passage formed between the guide grooves of the braking rods is shaped as its cross-sectional area is gradually decreased from upper to lower, and said weight receiving means is connected to external side of rotation center of the braking rods.
- [4] The personal descent apparatus according to any one of claims 1 to 3, further comprising braking force control means, wherein the braking force control means includes:
protrusion exposed to guide hole formed in one of the supporting plates, the protrusion being protrudently formed on the internal side of each rotation pin of the braking rods;
bracket fixed to the supporting plates on which the guide holes are formed;
screw control rod inserted to hole of the bracket; and
pressing plates inserted to the screw control rod for rotating the braking rods, as the pressing plates move upper and lower according to rotation of the screw control rod and press the protrusions.
- [5] The personal descent apparatus according to any one of claims 1 to 3, wherein each of said supporting plates comprises two separating members, wherein said

two separating members included in one supporting plate are rotatably connected to each other by hinge, and one separating member of the two separating members included in another supporting plate includes locking means, wherein the locking means includes flipping rod checking front and rear movement of other separating member flipped by elastic means installed within a fixing means.

- [6] The personal descent apparatus according to any one of claims 1 to 3, wherein each of said protrusion toward the guide groove of the braking rods forms gear thereon, such that the braking rods are geared when the gears of the braking rods go in gear and rotate.
- [7] The personal descent apparatus according to any one of claims 1 to 3, wherein said weight receiving means is made of soluble material.
- [8] The personal descent apparatus according to any one of claims 1 to 3, wherein, in a state that said weight receiving means does not receive load, the braking rods are positioned at a position where cross-sectional area of the passage between the guide grooves is largest by elastic member connecting each of the braking rods with the supporting plate.